U.S. NUCLEAR REGULATORY COMMISSION

REGION I

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Inspectors:	B. S. Norris, Senior Resident Inspector W. F. Mattingly, Resident Inspector R. A. Plasse, Resident Inspector

Approved by: Lawrence T. Doerflein 2/16/95

Lawrence T. Doerflein, Chief — Date
Reactor Projects Section No. 1A
Division of Reactor Projects

EXECUTIVE SUMMARY

Nine Mile Point Units 1 and 2
50-220/94-29 & 50-410/94-32

PLANT OPERATIONS

During this period, NMPC safely operated both units; Unit 1 began the end of cycle coast-down. Both units have implemented a 12-hour shift rotation for the operating staffs.

MAINTENANCE

Operators identified an RPS relay that appeared to be malfunctioning. After repair of the system, it was identified that the installed fuses did not agree with the drawing. Discussions with engineering determined that the drawing was correct, a DER was initiated to determine the root cause and corrective actions. **(URI 50-410/94-32-01)**

A review of the on-line maintenance practices at Nine Mile identified no problems. Both units have a rolling "window" concept for scheduling maintenance; a site procedure is under development for the evaluation and control of the voluntary removal of systems from service for maintenance. Neither unit performs a specific calculation of the risk insights from the PRA; but a qualitative assessment is performed with regard to plant safety.

Unit 1 was notified by GE of a potential problem with machining shavings wedged in the lower tie plate of new fuel. The results of a Unit 1 boroscopic inspection of all the new fuel lower tie plates were satisfactory.

ENGINEERING

While preparing to transfer the new fuel into the Unit 1 spent fuel pool, NMPC identified a conflict between enrichment of the new assemblies and the requirements of the Technical Specifications. Further research determined the enrichment in the Technical Specification to be a nominal value.

During routine surveillance testing, the Unit 2 Division I EDG exhibited instability in the control system. Replacement of both the electronic and the mechanical governors did not correct the problem. Engineering determined that the governor cooler temperatures were in excess of the manufacturer's recommended temperature. At the end of the inspection period, troubleshooting continued. The NRC considers this a potential design flaw with possible impact on EDG operability. **(URI 50-410/94-32-02)**

PLANT SUPPORT

The inspectors observed contract personnel working in the Unit 2 turbine building who had not properly signed on to the radiation work permit. A DER was initiated to investigate the problem. Pending completion of the root cause and proposed corrective actions, this will remain an unresolved item. **(URI 50-410/94-32-03)**

A site wide electronic radiation work permit/access control system (Fastrak) was put into service during the period. This new system should provide positive control of personnel authorized for specific RWPs and eliminate errors associated with manual recording methods. The system includes the use of an electronic dosimeter (DD-100) to record exposure.

Site radiological performance for 1994 met or exceeded previously established radiological safety goals. Resulting in the second lowest annual dose recorded for Unit 1; the dose recorded for Unit 2 is the lowest exposure for a full operating year in the Unit's history. The results achieved are indicative of the entire staff's attention to the ALARA program.

SAFETY ASSESSMENT & QUALITY VERIFICATION

Both units have recently implemented several initiatives specifically directed at increasing senior management oversight for both daily activities and long range projects. Many changes involved decreasing the time branch managers spend in meetings to provide additional time for management to spend in the plant.

During performance of a surveillance on the Unit 1 refueling bridge, the test weight disengaged from the hoist grapple and fell into the Unit 1 spent fuel pool. No damage was done to the pool or to any spent fuel. The root cause determination was that the all-purpose grapple should not have been used for this application. Contributing causes included no means to visually observe the proper engagement of the grapple and that the grapple itself was defective. Causal factors were inadequate training with respect to the inspection of the grapple, and failure to include all aspects of the operation in the procedure. (Non-cited Violation)

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DETAILS

1.0 SUMMARY OF ACTIVITIES

1.1 NMPC Activities

During this inspection period, the Niagara Mohawk Power Corporation (NMPC) safely operated both units. Reactor power was limited at Nine Mile Point Unit 1 (Unit 1) due to end of cycle power coast-down; power level at the end of the reporting period was about 78 percent. At the beginning of the inspection period Unit 2 commenced a reactor startup and reached full power operation on December 21. Unit 2 operated essentially at full power throughout the period except for several power reductions to support reactor feedwater pump lineup changes. Both units have implemented a 12-hour shift rotation for the operating staffs.

On January 20, 1995, NMPC announced changes in the Nine Mile management organization:

- Mr. John Blasiak was moved to a developmental position in the technical support group. Mr. Blasiak had been the Unit 2 Chemistry Manager since 1990.

- Ms. Coleen Ware was selected to replace Mr. Blasiak as the Unit 2 Chemistry Manager. Ms. Ware was previously the Emergency Preparedness Director. Prior to that, Ms. Ware was a chemistry instructor at the NMPC Nuclear Learning Center, and an ANSI qualified chemistry technician for Unit 2.

- Mr. James Jones replaced Ms. Ware as the Emergency Preparedness Director. Mr. Jones was a senior specialist in the EP department.

1.2 NRC Activities

The resident inspectors conducted inspection activities during normal, backshift, and weekend hours. There were 57 hours of backshift (evening shift) and 22 hours of deep backshift (weekend, holiday, and midnight shift) inspection during this period.

2.0 PLANT OPERATIONS (30702, 71707, 71714, 92901, 93702)*

2.1 Operational Safety Verification

The inspectors observed overall operation and verified that the licensee operated the units safely and in accordance with their procedures and regulatory requirements. The inspectors conducted walkdowns of safety systems and components for leakage, lubrication, cooling, and general material conditions that might affect their operation. The inspectors observed good plant housekeeping, including control and storage of flammable material. Regular tours of accessible plant areas included:

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* The NRC inspection manual procedure or temporary instruction that was used as inspection guidance is listed for each applicable report section.

•Control Rooms	•Control Buildings	•Access Control Points
•Turbine Buildings	•Switchgear Rooms	•Diesel Generator Rooms
•Refuel Floors	•Service Water Bays	•Radwaste Buildings
•Reactor Buildings	•Protected Area Perimeter	

In the control rooms, the inspectors verified alignment of engineered safety features, operator response to alarm conditions, and technical specification compliance, including implementation of appropriate action statements for equipment out of service. Logs and records were accurate and properly reflected equipment status. The inspectors observed that shift turnovers were comprehensive, accurate, and adequately reflected plant activities and status. Control room operators effectively monitored plant operating conditions and made necessary adjustments. The inspectors made several detailed observations of the operating crews on the new 12-hour shift schedule. The inspectors completed these observations during various times of the day and evening shifts, including the weekends. Based on the above, the inspectors concluded that NMPC conducted overall plant operations in a safe and conservative manner.

2.2 Control Room Observations at Unit 2

The inspectors observed the operating crews' performance during portions of daily activities, surveillance testing, and planned power transients during reactor feed pump swap evolutions. The operations staff demonstrated an excellent knowledge of the plant systems, operating procedures, and current plant status. Shift turnovers and special evolution briefs were formal and professional, providing sufficient detail to maintain proper continuity during ongoing evolutions and to keep the operations crew knowledgeable of current plant issues/problems and upcoming evolutions. Procedural adherence, proper communication, self/peer checking techniques, and a good questioning attitude created a professional, efficient, safety-oriented control room atmosphere. When problems were identified, the operating crews took appropriate actions to resolve the issues.

The inspectors reviewed several operator rounds procedures, daily shift checks, and shift turnover checklists. Because of the change from the 8-hour shift to the new 12-hour shift, NMPC needed to complete changes to the shiftly checks and round guides procedures. Previously, the checks and rounds guides were performed every 8 hours (i.e., once a shift), the new requirement would be once every 12 hours (i.e., once a shift).

The following procedures were reviewed:
- N2-PM-S004, Upper Control Building Rounds, revision 1
- N2-PM-S005, Lower Control Building Rounds, revision 1
- N2-PM-S006, Upper Reactor Building Rounds, revision 1
- N2-PM-S007, Lower Reactor Building Rounds, revision 1
- N2-PM-S008, Upper Turbine Building Rounds, revision 1
- N2-PM-S009, Lower Turbine Building Rounds, revision 1
- N2-PM-S010, Screenwell Building Rounds, revision 1
- N2-OSP-LOG-S001, Shift Checks - Mode 1
- N2-ODP-OPS-0107, Shift Turnovers Checklist

Based on a review of the procedures and discussions with the operators, the inspectors concluded that sufficient guidance and reviews were provided to the operating crews. Also, the inspectors noted that the operators have an opportunity to identify plant problems and to initiate corrective actions through the deviation/event reporting system (DER). The inspectors observed several examples where the operators initiated DERs based on problems while completing daily rounds.

3.0 MAINTENANCE (61726, 62703, 92902, 60705)

3.1 Maintenance Observations

The inspectors observed maintenance activities to ascertain if safety-related work was being conducted according to approved procedures, the technical specifications, and appropriate industry codes and standards Observation of activities and review of records verified that: required administrative authorizations and tag outs were obtained, procedures were adequate, certified parts and materials were used, test equipment was calibrated, radiological requirements were implemented, system prints and wire removal documentation were used, and quality control hold points were established. Maintenance activities observed at Unit 2 included:

- WO 95-00755-00, Troubleshoot Unexpected Diesel Generator Response During N2-OSP-EGS-M @ 001.
- WO 95-00755-01, Replace Mechanical Governor on EDG Division I.
- WO 95-00908, Install and Remove Instrumentation on EDG Division I.
- WO 94-08986, Battery Room Weekly Checks.
- WO 95-00498, Replace Potter-Brumfield Relay in Reactor Protection System

The above activities were effective with respect to meeting the safety objectives.

3.2 Potter Brumfield Relay Replacement in Unit 2 RPS

During a plant transient due to the trip of the B reactor feed pump at Unit 2, the operators identified increased "chattering" of a reactor protective system (RPS) relay with no apparent cause. The inspectors monitored NMPC's repair activity and work controls.

The inspectors reviewed the work instructions and observed the work activity, including the pulling of the fuses during the protective tagout. The operators involved, in conjunction with the electricians, thoroughly reviewed the RPS prints to identify the correct fuses. In their review, they identified an incorrect reference on the RPS drawings. A DER was initiated to document the drawing error. During restoration of the system, the operator reinstalling the fuses questioned whether the fuses that had been removed were proper. The fuses removed were 10 amp, the controlled drawing specified 5 amp. Engineering assistance determined the correct fuse to be 5 amp and initiated a DER to review the situation. The shift supervisor, after discussions with engineering, determined the fuse problem to be an isolated occurrence and had no operability concerns. NMPC installed new 5 amp fuses, and restored the RPS to support the retest.

The inspectors observed the retest [N2-RPS-R211, "Channel Scram Response Time Test"] to verify that the surveillance was being performed in accordance with technical specifications and procedural requirements. The test demonstrates the operability of the RPS scram relays. The inspectors had no questions and the test appeared to be the appropriate retest for the replaced relay.

The inspectors concluded that NMPC adequately controlled the relay repair. At the end of the inspection period, NMPC continued to review the installation of incorrect fuses to determine the root cause and further corrective actions. Although this problem appears to be isolated, the inspectors' question whether this is an example of weaknesses in the fuse control program. The adequacy of NMPC's fuse control program for safety related circuits is unresolved pending further review by NMPC engineering staff. **(URI 50-410/94-32-01)**

3.3 Evaluation of On-Line Maintenance

During visits to nuclear plants, senior NRC management has noted that many licensees are increasing the amount of maintenance performed during power operation. The NRC is concerned that some licensees may be implementing the concept of on-line maintenance without a thorough evaluation of the risks associated with multiple components being out of service for testing and maintenance. The performance of maintenance while the unit is on-line usually causes the voluntary entry into a technical specification (TS) limiting condition for operation (LCO). In addition, on-line maintenance has the potential to increase the unavailability of safety related equipment and may, in some cases, invalidate the assumptions in the plant-specific probability risk analysis (PRA). NRC Temporary Instruction (TI) 2515/126, "Evaluation of On-Line Maintenance," provided a basis for inspectors to review the impact of scheduled on-line maintenance activities.

Both units have implemented a rolling "window" concept for scheduling maintenance; each week is dedicated to one of the divisions or is designated a non-division work week. A site procedure is being developed to delineate common requirements for the evaluation and control of the voluntary removal of systems from service for maintenance.

Unit 1 has a procedure for the scheduling and performance of on-line maintenance and voluntary entry into LCOs; Unit 2 uses departmental instructions for guidance. Both units based their guidance on industry and NRC information and rules. Neither unit specifically considers the probabilistic risk insights from the PRA or the three risk factors defined in the TI; i.e., the probability of an initiating event, the probability of being able to mitigate the event, and the probability of being able to mitigate the consequences of the event. They do, however, evaluate the impact of scheduling on-line maintenance with regard to plant safety in a qualitative manner. Some of the key requirements include:

- consideration of all plant activities to assure that safety and performance will not be affected by the maintenance, with special attention placed on emergency core cooling and emergency power systems;

- coordination of maintenance activities to minimize equipment out-of-service time and maximize system availability; and

- establishment of contingency plans to address required actions if the predetermined allowed maintenance time is exceeded (maintenance is usually scheduled to be completed within one-half of the TS allowable outage time).

A "justification for LCO entry" to support the on-line maintenance is typically initiated by a systems engineer or maintenance planner, reviewed by the maintenance and operations planning groups, and approved by the maintenance and operations managers. The planning groups include several current or previously licensed individuals. Although basic guidance is provided, the responsibility for identifying risk-significant combinations of inoperable equipment resides in the review/approval process, but ultimately with the station shift supervisor who releases the system for maintenance and enters the LCO.

The inspectors reviewed the maintenance schedules for the next quarter and identified no instances where unacceptable combinations of equipment were planned to be out of service or unavailable.

3.4 Possible Debris Contamination on New Fuel

General Electric (GE) notified Unit 1 of a problem identified during the fabrication of GE9 fuel for another utility. Specifically, machining shavings were found wedged inside the fuel assembly lower tie plate flow holes. Although Unit 1's new fuel was GE11, fabrication similarities led GE to conclude that debris could possibly be wedged in the smaller periphery flow holes of the GE11 fuel. A combination of GE's manufacturing inspections and NMPC's receipt inspections most likely would have identified any debris; therefore, GE did not recommend additional inspections. NMPC's recently performed new fuel receipt inspections did not identify any debris in or on the fuel assembly lower tie plate; however, there was no specific guidance or sign-off for a lower tie plate flow hole inspection in the new fuel bundle inspection procedure. Therefore, because of the consequences of loose debris in a fuel assembly (i.e., fuel fretting) and the possibility that not all of the flow holes were inspected, Unit 1 performed a boroscopic inspection of all the new fuel lower tie plates from underneath the new fuel storage vault. The results of the inspection were satisfactory. The inspectors discussed the problem and inspection technique with Unit 1 staff. NMPC's decision to re-inspect the all of the new fuel demonstrated their commitment to safe and conservative operation of Unit 1.

3.5 Surveillance Observations

The inspectors observed and reviewed portions of ongoing and completed surveillance tests to assess performance in accordance with approved procedures and Limiting Conditions for Operation, removal and restoration of equipment, and deficiency review and resolution. The following tests were reviewed:

Unit 1

· N1-IPM-RFB-001, Refuel Bridge Hoist Calibration

Unit 2

· N2-ESP-B45-N675, 125 volts DC Weekly Battery Surveillance Test.
· N2-OSP-EGS-M@001, Diesel Generator and Diesel Air Test Valve Operability Test - Division I & II
· N2-OSP-EGS-M@002, Diesel Generator and Diesel Air Test Valve Operability Test - Division III
· N2-ESP-ENS-Q731, Quarterly Channel Functional Test of LPCS/LPCI Coolant Injection Pumps (Normal and Emergency Power) Auto Start Time Delays
· N2-ISP-RPS-R211, Channel Scram Response Time Test
· N2-OSP-RHS-Q@006, RHR System Loop C Pump and Valve Operability Test

No concerns were identified during the inspectors' review of the above activities.

3.6 Unit 2 ECCS "Auto Start Timers" Testing

The inspectors observed the Unit 2 quarterly functional test of low pressure core spray/low pressure coolant injection (LPCS/LPCI) pumps auto start time relays to verify that the surveillance was being performed in accordance with technical specification and procedural requirements. The test demonstrated the operability of the auto start timers under both normal power and emergency power conditions.

The loss of coolant accident (LOCA) test switch is used to simulate a LOCA, to pick up the related time delay relays, and energize the associated load sequencing relays. The test switch is used once with the reserve or auxiliary transformer feeding the bus and again with a simulated loss of offsite power (LOP). The associated diesel generator is blocked by placing the "emergency diesel generator start switch" in pull-to-lock and the "LOCA Bypass Switch" to ON. The Power Availability Test Switches are placed in the TEST position to prevent starting of the emergency core cooling systems (ECCS) pumps.

The inspectors determined NMPC performed the procedure as required and met the appropriate action for the limiting condition of operation for the emergency diesel generator rendered inoperable during the performance of the test. Observations and questions identified by the inspectors were satisfactorily resolved by the test personnel.

4.0 ENGINEERING (37551, 92903, 60705)

4.1 New Fuel Storage in the Spent Fuel Pool

Design features Section 5.5 of the Unit 1 TS states that fuel assemblies stored in Boraflex spent fuel pool (SFP) storage locations are limited to 3.75 weight percent (wt%) of uranium-235 per axial centimeter of assembly. Prior

to loading the new fuel in the SFP for the upcoming refueling outage (RFO 13), a fuels engineer raised a concern that the bundle manufacturing enrichment tolerances were not properly accounted for in the fuel design. General Electric's (the fuel supplier) bundle enrichment tolerances allow for a ±1.5% deviation from the design enrichment. RFO 13 fuel is designed for an average bundle enrichment of 3.40 wt% with a peak lattice enrichment of 3.74 wt%. Therefore, the range of peak lattice enrichments is 3.68 wt% to 3.79 wt%, resulting in a potential for exceeding the TS enrichment value. A DER was initiated and NMPC management promptly and thoroughly evaluated the issue, in consultation with the vendor.

NMPC's 10 CFR 50.59 safety evaluation concluded that the enrichment numbers specified in the TS and FSAR are nominal enrichments and the corresponding value for Reload 13 bundles, 3.74 wt%, does not exceed the 3.75 wt% enrichment specified in the TS. FSAR section X.J.2.1 was revised to clarify the meaning of 3.75 wt% enrichment limit. NMPC also confirmed that the SFP K-effective value remained less than 0.95 (an NRC acceptance criteria for the margin to SFP criticality) even when the maximum manufacturing tolerances were used in the analysis.

The inspectors reviewed the safety evaluation, applicable sections of the FSAR, and the NRC safety evaluation for TS Amendment 54 which dealt with SFP storage capacity and spent fuel enrichment (including supporting information provided by NMPC to the NRC). In addition, several management and SORC discussions on the issue were observed. The inspectors concluded that NMPC properly addressed the enrichment and margin to criticality concerns.

4.2 Inoperable Emergency Diesel Generator

On January 26, 1995, during routine monthly surveillance testing, the Division I emergency diesel generator (EDG) exhibited instability in the engine control system and tripped when its output circuit breaker was opened. Control system troubleshooting indicated a problem with either the electronic governor control panel or the mechanical governor. The applicable technical specification LCO was entered, and the Division II EDG was tested. No instability was noted during the run of the Division II EDG.

After replacing the Division I EDG electric governor control panel, the Division I EDG still exhibited instability during testing. During subsequent troubleshooting, excessive temperatures were noted at the base of the governor, and it was determined that the mechanical governor was malfunctioning. The mechanical governor was replaced and the EDG was noted to operate properly; but, the governor was still experiencing excessive temperatures.

NMPC engineering determined that the temperatures experienced by the governor cooler were in excess of the manufacturer's recommended operating temperature (140°F-200°F). Various measurements taken on the governor casing by surface pyrometer readings indicated greater than 220°F during EDG operation. Subsequent NMPC troubleshooting and inspection determined no blockage in the governor cooling water supply. The technical manual indicates that higher temperatures (greater than 200°F) can result in oil thinning and governor

control problems. Based on no identification of cooling system obstruction NMPC is reviewing the design of the mechanical governor cooling system. At the end of the inspection period NMPC continued to develop their troubleshooting plan which included additional diesel runs on the operable EDG to determine its governor temperature profile. The NRC considers this potential design flaw and its impact on EDG operability to be unresolved pending further NRC review of NMPC's evaluation. **(URI 50-410/94-32-02)**

5.0 PLANT SUPPORT (71707, 71750, 92904)

Radiation Protection

5.1 Unit 2 Radiation Work Permit Controls

On January 17, the inspectors observed that three contract personnel performing work in the Unit 2 turbine building had not properly signed on to the radiation work permit (RWP). The RWP [#955062] required the use of respirators because of sandblasting inside a contaminated area. Certain information was to be recorded on the RWP before entering the work area: the time of entry into the work area, the initial reading on the self-reading pocket dosimeter, and the time the respirator hood is donned. The inspectors noted that one worker entered the time of entry only, the second did not enter the time he donned the respirator, and the third had no information on the RWP. The inspectors observed all three individuals inside of the work area; and specifically, the second worker exiting the tent inside of the work area and removing his respirator hood.

The inspectors discussed this with the Chief RP technician and an RP Supervisor. Immediate action was taken to correct this situation and to verify that all other personnel were properly logged on to the correct RWP. DER #2-95 0115 was initiated to investigate the problem. Pending completion of the root cause and proposed corrective actions, and further NRC review, this will remain an unresolved item. **(URI 50-410/94-32-03)**

5.2 Fastrak Electronic Dosimetry System

NMPC recently completed site wide training on Fastrak, an electronic RWP/access control system. The Fastrak system allows radiation workers to electronically sign in and out on RWPs, thus eliminating the need for RWP sign-in sheets. Signing in and out on the RWP is accomplished with a laser light pen and bar scan labels on individual badges and appropriate RWPs. This new system provides positive control on personnel authorized for specific RWPs and eliminates errors associated with manual recording methods.

Radiation workers now use an electronic dosimeter (DD-100) to record their exposure. The electronic dosimeters have the capability of establishing pre-set integrated dose and dose rate alarms. The dose recorded on the DD-100 is downloaded to the Fastrak computer system. This provides the radiation worker with an updated exposure record before every subsequent radiation control access entry. The inspectors monitored the employee training provided on the system. The inspectors considered this initiative to be an excellent radiation exposure management tool.

5.3 1994 Radiological Performance Summary

Overall site radiological performance for 1994 resulted in meeting or exceeding previously established radiological safety goals. The following results were achieved:

	Radiological Exposure (man-rem)		Contamination Occurrence Reports	
	Actual	Goal	Actual	Goal
Unit 1	66.5	75.0	30	100
Unit 2	81.0	75.0	40	100

The 66.5 man-rem recorded at Unit 1 is the lowest annual dose recorded since 1970. The 81.0 man-rem recorded at Unit 2 is the lowest total exposure for a full operating year in the Unit's history. NMPC attributed several factors to the success of the radiological program:

- Implementation of Revised 10 CFR 20; allowing for only 54 respirators used at Unit 1 in 1994, compared to greater than 3000 used in 1993.
- Increased consideration of exposure impact by work control center personnel when scheduling work activities.
- Aggressive decontamination and temporary shielding installation.
- Wide use of cameras throughout the plant for remote viewing of equipment in high radiation areas.

In addition to the results achieved, radiation protection supervision continues to be involved in benchmarking and industry assist visits at other BWR facilities to provide management with a greater selection of "programmatic tools" to better serve site radiological workers and continue to reduce site radiological exposure. The inspectors consider the excellent results and the management attention to the radiological program to be specific evidence of the success of NMPC's ALARA program.

6.0 SAFETY ASSESSMENT AND QUALITY VERIFICATION (40500, 71707, 90712, 92700)

6.1 Management Oversight Initiatives

NMPC recently implemented several initiatives specifically directed at increasing senior management oversight for both daily activities and long range projects. Unit 1 started periodic management review meetings. These synergistic meetings enable the branch managers to: provide early management direction, focus, and commitment for engineering projects, significant plant issues, or tests; provide technical briefings for SORC discussion items, thus increasing the safety focus of SORC meetings; and better coordinate site resources. Unit 2 changed the frequency and content of the plant manager's staff meeting. These changes were made to decrease the time branch managers spend in meetings and provide additional time for management to spend in the

plant. This additional time will be used to reinforce management expectations for plant operations and maintenance and increase accountability at all levels of the organization. The inspectors have observed the meetings and discussed the affects of these initiatives with varying levels of the organization and consider them to be positive initiatives.

6.2 Test Weight Dropped into Unit 1 Spent Fuel Pool

On January 9, 1995, during performance of procedure N1-IPM-RFB-001, "Refuel Bridge Hoist Calibrations," the test weight (dummy bundle, weight about 470 pounds) disengaged from the hoist grapple and fell into the Unit 1 spent fuel pool (SFP). The weight fell onto the SFP work platform which protected the SFP liner from damage. The weight did not come in contact with any spent fuel or any spent fuel racks. The test weight was retrieved and returned to a storage position in the SFP. One of the resident inspectors was on the refuel floor observing the surveillance when the test weight fell. The weight dropped into the SFP because it was not properly engaged and the grapple was defective.

The auxiliary frame hoist on the refueling bridge, with an "all-purpose" grapple attached, is used to lift the test weight for the load cell calibration. For most evolutions involving the grapple, it is engaged by hand and disengaged either by hand or remotely using an actuator pole. The maintenance mechanics use the all-purpose grapple during the receipt inspection of new fuel; all grapple manipulations are done by hand. The refueling bridge operators use the all-purpose grapple during the transfer of new fuel or new control rod blades into the SFP; the grapple is engaged by hand and disengaged with the actuator pole. But, for the calibration of the refueling bridge load cells, the dummy bundle was under water and the grapple had to be engaged remotely.

The vendor, General Electric, had provided operating instructions on how to remotely engage the grapple, but it was not used during the pre-job brief. Also, the surveillance procedure did not contain the vendor's instructions on how to engage the grapple remotely. If the details of how to perform a task are considered "skill of the trade," then the details do not normally get listed in the procedure. "Skill of the trade" is based on: (1) Is the task done frequently?, and (2) Has the individual performed the task satisfactorily before?

However, for this calibration evolution the inspectors determined: (1) the procedure should have been more detailed because engaging the grapple remotely is only done once every two years, prior to each refueling outage, and (2) more detailed verbal instructions should have been given to the licensed operator because the licensed operator on the bridge had not used the grapple for several years, and there was no basis for assuming that he could still perform the task without specific instructions.

NMPC initiated a DER #1-95-50 and determined that the all-purpose grapple should not have been used for this application. Although designed for remote operation, the task is complex and performed infrequently. In addition, there is no means to visually observe the proper engagement of the grapple and that

the grapple was defective. Causal factors were inadequate training with respect to recognizing that the grapple was defective, and failure to include all aspects of the operation in the procedure (i.e., the procedure focused on the I&C functions and there was no attention to the bridge operator's duties). Corrective actions included a revision of the procedure to use a different grapple.

The inspectors conducted an independent review of this event, and agreed with the results of the NMPC root cause analysis. The immediate corrective actions appear adequate to prevent recurrence. The residents will closely monitor spent fuel pool activities during the upcoming Unit 1 refueling outage.

Unit 1 technical specification 6.8.1 requires written procedures to be established for refueling equipment activities. The procedure developed and used for this evolution was inadequate in that sufficient detail on how to use the all-purpose grapple was not included. However, this was an isolated occurrence, the consequences were minor, and corrective action was taken quickly. The violation was not cited because the criteria for discretion specified in the NRC Enforcement Policy, Section VII.B, were satisfied.

6.3 Review of Licensee Event Reports

The inspectors reviewed the below licensee event report (LER) to verify that it conformed to the requirements specified in the technical specifications. These requirements include a proper narrative description of the event, the cause of the event, an assessment of the safety consequences, and corrective actions.

LER 50-410/94-07
RPS and ESF Actuations and a Technical Specification Violation Occurring During Completion of a Technical Specification Required Plant Shutdown

a. On December 9, 1994, during a TS required shutdown due to increasing and unidentified reactor coolant leakage in the drywell, a manual scram was initiated after condenser vacuum started to decrease. As expected, reactor water level decreased to level 3, causing a partial containment isolation signal. This event was discussed in NRC inspection report 50-410/94-29.

NMPC determined the root cause for the shutdown as poor managerial methods. The cause of the unidentified leakage was a valve packing leak; the valve had been scheduled for repair during the last refueling outage (fall 1993), but was removed from the schedule without an adequate risk and consequence assessment.

b. In preparation for containment entry, operators began de-inerting the drywell and suppression chamber. TS surveillance 4.11.2.1.2 requires a "representative" sample prior to purging; the drywell was sampled, but not the suppression chamber. During a period when the purge was temporarily stopped, it was recognized that the sample was not representative. Samples were analyzed from the drywell and the suppression chamber prior to the purge continuing.

NMPC determined the root cause of the technical specification violation to be inadequate written communications. The associated procedures did not clearly specify that a representative containment sample included both the drywell and the connected suppression chamber. Corrective actions include revisions to the respective chemistry and operations procedures to clarify sampling requirements.

The inspectors reviewed the LER and determined that it satisfactorily described the events, results of the root cause evaluations, and the corrective actions taken to prevent recurrence. However, the failure to properly sample the suppression chamber prior to purging is a violation of technical specification 4.11.2.1.2. This violation was not cited because of the minimal safety significance and the criteria for discretion specified in the NRC Enforcement Policy, Section VII.B, were satisfied. **LER 50-410/94-07 is closed.**

7.0 MANAGEMENT MEETINGS (30702)

At periodic intervals and at the conclusion of the inspection period, meetings were held with senior station management to discuss the scope and findings of this inspection. Based on the NRC Region I review of this report and discussions held with Niagara Mohawk representatives, it was determined that this report does not contain safeguards or proprietary information.